

IN THE CLAIMS

1. (Currently amended) A method of simulating the operation of at least one switch fabric comprising a plurality of integrated circuits of a designated chip set, utilizing a software-based development tool, the method comprising the steps of:

providing in the software-based development tool an interface ~~permitting~~ for user control of ~~one or more~~ configurable parameters of the switch fabric; and

automatically generating a simulation configuration for the switch fabric based on current values of the configurable parameters;

the simulation configuration being generated without requiring further user input;

the simulation configuration specifying interconnections between the integrated circuits which satisfy the current values of the configurable parameters;

wherein the ~~one or more~~ configurable parameters of the switch fabric comprise one or more configurable parameters of each of the integrated circuits and ~~one or more~~ configurable parameters of a base device for the designated chip set;

wherein each integrated circuit of the designated chip set corresponds to a specified ingress device, a specified cross-connect device or a specified egress device;

wherein the one or more configurable parameters of a given integrated circuit are determined by the correspondence of the given integrated circuit to the specified device;

wherein the ~~one or more~~ configurable parameters of the base device comprise a cell payload size, a chip version, a clock speed, a switching capacity, and a configuration type selected from a plurality of configuration types comprising a centralized configuration, a stackable configuration and a distributed configuration; and

wherein the interface permits user selection of any one of the plurality of configuration types.

2. (Canceled)

3. (Previously presented) The method of claim 1 wherein the at least one switch fabric comprises at least one multistage switch fabric.

4. (Previously presented) The method of claim 3 wherein the integrated circuits comprise at least two ingress devices, at least one cross-connect device and at least two egress devices.

5. (Canceled)

6. (Previously presented) The method of claim 1 wherein the interface includes a listing of the integrated circuits.

7-10. (Canceled)

11. (Previously presented) The method of claim 1 wherein the configurable parameters comprise a number of ports of the switch fabric.

12. (Previously presented) The method of claim 1 wherein the software-based development tool comprises an automatic configuration generation module which generates the simulation configuration for the switch fabric based on the current values of the configurable parameters.

13. (Previously presented) The method of claim 1 wherein the simulation configuration is generated utilizing an object-oriented programming construct comprising a base class, corresponding to the base device, and an associated generation interface.

14. (Previously presented) The method of claim 13 wherein the generation interface declares a generate function that is implemented by each of a plurality of generators, each of the plurality of generators corresponding to a different configuration of the switch fabric.

15. (Previously presented) The method of claim 14 wherein the plurality of generators comprises a centralized configuration generator, a stackable configuration generator and a distributed configuration generator, corresponding to respective centralized, stackable and distributed configurations of the switch fabric.

16. (Original) The method of claim 1 wherein the software-based development tool runs at least in part on an information processing device comprising a processor and an associated memory.

17. (Previously presented) The method of claim 1 wherein the software-based development tool comprises a simulator control module, a set of interfaces, and circuit element modules each corresponding to an associated one of the integrated circuits.

18. (Currently amended) An apparatus for simulating the operation of at least one switch fabric comprising a plurality of integrated circuits of a designated chip set, the apparatus comprising:

an information processing device having a processor and a memory;

the information processing device implementing a software-based development tool providing an interface ~~permitting~~ for user control of ~~one or more~~ configurable parameters of the switch fabric, the development tool being operative to automatically generate a simulation configuration for the switch fabric based on current values of the configurable parameters;

the simulation configuration being generated without requiring further user input;

the simulation configuration specifying interconnections between the integrated circuits which satisfy the current values of the configurable parameters;

wherein the ~~one or more~~ configurable parameters of the switch fabric comprise one or more configurable parameters of each of the integrated circuits and ~~one or more~~ configurable parameters of a base device for the designated chip set;

wherein each integrated circuit of the designated chip set corresponds to a specified ingress device, a specified cross-connect device or a specified egress device;

wherein the one or more configurable parameters of a given integrated circuit are determined by the correspondence of the given integrated circuit to the specified device;

wherein the ~~one or more~~ configurable parameters of the base device comprise a cell payload size, a chip version, a clock speed, a switching capacity, and a configuration type selected from a plurality of configuration types comprising a centralized configuration, a stackable configuration and a distributed configuration; and

wherein the interface permits user selection of any one of the plurality of configuration types.

19. (Currently amended) An article of manufacture comprising a storage medium containing one or more software programs for use in simulating the operation of at least one switch fabric comprising a plurality of integrated circuits of a designated chip set, utilizing a software-based development tool, wherein the one or more software programs when executed implement the steps of:

providing in the software-based development tool an interface ~~permitting~~ for user control of ~~one or more~~ configurable parameters of the switch fabric; and

automatically generating a simulation configuration for the switch fabric based on current values of the configurable parameters;

the simulation configuration being generated without requiring further user input;

the simulation configuration specifying interconnections between the integrated circuits which satisfy the current values of the configurable parameters;

wherein the ~~one or more~~ configurable parameters of the switch fabric comprise one or more configurable parameters of each of the integrated circuits and ~~one or more~~ configurable parameters of a base device for the designated chip set;

wherein each integrated circuit of the designated chip set corresponds to a specified ingress device, a specified cross-connect device or a specified egress device;

wherein the one or more configurable parameters of a given integrated circuit are determined by the correspondence of the given integrated circuit to the specified device; and

wherein the ~~one or more~~ configurable parameters of the base device comprise a cell payload size, a chip version, a clock speed, a switching capacity, and a configuration type selected from a plurality of configuration types comprising a centralized configuration, a stackable configuration and a distributed configuration; and

wherein the interface permits user selection of any one of the plurality of configuration types.

20. (Canceled)

21. (Currently amended) The method of claim 1 wherein the ~~one or more~~ configurable parameters of the switch fabric comprise a clock speed of at least a given one of the integrated circuits.

22. (Previously presented) The method of claim 8 wherein the switching capacity of the switch fabric determines a number of integrated circuits included in the switch fabric.

23. (Previously presented) The method of claim 1 wherein each integrated circuit has at least one block function associated therewith.

24. (Previously presented) The method of claim 1 wherein the one or more configurable parameters of the given integrated circuit comprise a number of ports on the corresponding device.

25. (Previously presented) The apparatus of claim 18 wherein the one or more configurable parameters of the given integrated circuit comprise a number of ports on the corresponding device.

26. (Currently amended) The apparatus of claim 18 wherein the ~~one or more~~ configurable parameters of the switch fabric comprise a clock speed of at least a given one of the integrated circuits.

27. (Currently amended) The article of claim 19 wherein the ~~one or more~~ configurable parameters of the switch fabric comprise a clock speed of at least a given one of the integrated circuits.